June 19, 2000

## UTILITY PATENT APPLICATION TRANSMITTAL LETTER

Assistant Commissioner of Patents
Box **Patent Application**
Washington, D.C. 20231

Sir:

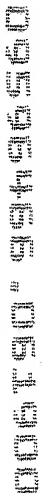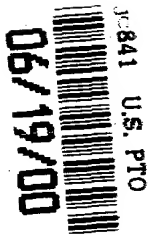Enclosed herewith for filing is the following **utility patent application**:

Attorney Docket No.: **Bell-19**

Applicants: **Craig L. REDING, Suzi LEVAS**

Title: **"METHODS AND APPARATUS FOR PROVIDING TELEPHONE SUPPORT FOR INTERNET SALES"**

PATENT APPLICATION FILING FEE CALCULATION

| | No. Filed | Less | Rate/Claim | Fee |
|---|---|---|---|---|
| Total Claims | **29** | -20 | 9 x $18.00 | $ 162.00 |
| Independent Claims | **5** | -3 | 2 x $78.00 | $ 156.00 |
| | Minimum Filing Fee | | | $ 690.00 |
| | Multiple Dependency Fee (if applicable - $260.00) | | | $ 00.00 |
| 50% Reduction for Small Entity (Independent Inventor, Non-profit Corporation, or Small Business Concern) - appropriate verified statement attached | | | | $- 00.00 |
| | TOTAL FILING FEE | | | $1,008.00 |
| | ASSIGNMENT RECORDATION | | | $ 40.00 |
| | **TOTAL FEES ENCLOSED** | | | **$1,048.00** |

☒   Specification:   **_38_**   Total Pages (including claims and abstract)

☒   Drawing(s):   **_7_**   Total Sheets (FIGs. 1-9)

        Also enclosed herewith for filing in connection with the enclosed application are:

☒         Our check in the amount of **$1,048.00** (the total filing fee) is enclosed herewith. If this check is unacceptable, insufficient or omitted, kindly charge the entire or additional filing fee, as appropriate, to the deposit account of **Straub & Pokotylo,** deposit account number **50-1049.** To facilitate that charge, a duplicate copy of this letter is enclosed herewith.

☒         Postcard Receipt;

☐         Preliminary Amendment;

☒         Oath or Declaration:
            ☒   Newly executed on June 16, 2000;
            ☐   Copy from a prior application (36 C.F.R. §
               1.63(d);

☒         Assignment Papers to: Bell Atlantic Network Services, Inc.;

☐         Information Disclosure Statement, modified PTO-1449, and (0) cited reference(s);

☐         Letter referencing previously filed disclosure document; number _____ filed _____;

☐         Verified Statement Claiming Small Entity Status:
            ☐   Newly executed on _____;
            ☐  Copy from a prior application , status still
               proper and desired;

☐         Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b);

☐         Microfiche Computer Program (Appendix);

☐         English translation document;

☐ Submission of Priority Document and a certified copy of a _____ patent application or inventor's certificate, filed _____ and assigned serial no. _____, upon which a claim to priority is made; and

☐ Other: _____

_____.

Respectfully submitted,

STRAUB & POKOTYLO

_Michael P Straub_
Michael P. Straub, Attorney
Reg. No. 36,941
Customer No. IDON601137

### ***EXPRESS MAIL CERTIFICATION***

"Express Mail" mailing label number: **EL547453311US**
Date of deposit: **June 19, 2000**

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service on the date indicated above and is addressed to the Assistant Commissioner of Patents, **Box Patent Application**, Washington, D.C. 20231.

_Michael P Straub_
Signature of person making certification

Michael P. Straub
Name of person making certification

# METHODS AND APPARATUS FOR PROVIDING TELEPHONE SUPPORT FOR INTERNET SALES

## FIELD OF THE INVENTION

The present invention is directed to communications systems and, more particularly, to methods and apparatus for providing telephone services in response to signals received over the Internet.

## BACKGROUND OF THE INVENTION

Electronic commerce is growing at an astonishing rate and is likely to capture an ever growing segment of retail and business sales from conventional stores.

One particularly attractive feature of Internet commerce is the relatively low entry costs, in terms of physical overhead, associated with starting an E-commerce business. An E-commerce business can be started with little more than a Web server for hosting the business's Web site, and the staff and accessories needed to ship and bill for products ordered over the Internet. Rent and other business overhead can be minimized by locating the E-commerce business at a relatively remote location where building rents are low while high speed Internet access and shipping services are still accessible.

Initially, many small E-commerce businesses are started out of peoples homes or existing business sites with a minimal amount of investment in physical hardware.

5

From a consumer standpoint, ordering of goods and/or services via the Internet offers many advantages. Often the goods are offered at a lower price than that charged by conventional retailers. In addition, the vast

10 number of businesses which can be accessed via the Internet allows customers the ability to order both common and hard to find goods and services from the convenience of their home.

15 Internet orders are usually made via the exchange of electronic information between a customer's computer and a Web server hosting an E-business Web site to which the order is directed. The order process is normally an automated one which lacks any live human

20 involvement on the part of the E-business retailer.

Many potential E-business customers find the lack of human involvement on the part of the E-business retailer unsatisfactory. In the case of expensive

25 purchases, customers often seek an oral acknowledgement from a human being that the order was received and is being processed properly. This is often exhibited in the form of a telephone call being placed by the customer to the E-business after an order is made.

The inability to orally present questions to a sales representative during an E-business transaction is another area which many potential E-business customers
5    find unsatisfactory.  In many cases, sales are lost because a customer does not want to present their questions in E-mail form.

Another complaint with E-commerce is that many
10   businesses which sell over the Internet have poor customer support.  In many cases, people complain about being unable to contact service representative to discuss the status of an order or other order related problems.

15           Large electronic retailers can make significant investments in telephone equipment such as PBXs which can be used in placing calls to customers and servicing calls received from customers.  However, many smaller E-commerce start-up are unwilling or unable to make such
20   investments in telephone equipment.

The cost associated with PBX and other telephone equipment is one reason Internet businesses have poor telephone support.  Another reason is the cost
25   associated with having people available to respond to questions which may be raised 24 hours a day, 7 days a week.

Often the demand to speak with sales representatives and customer service people will vary during different times of the day. Unfortunately, sales representatives who have to commute to work are often

5   unwilling to work only a few hours a day or with large intervals of unpaid breaks, e.g., several hours, between work periods. Thus, in order to have customer service representatives available to satisfy peak demands often means that service representatives will need to be paid

10  for off-peak periods of time during which they may be idle.

In view of the above discussion, it is apparent that there is a need to improve the ability of E-commerce

15  customers to interact, e.g., over the telephone, with service representatives. There is also a need for methods of providing Internet businesses the ability to provide telephone support to Internet customers without having to make substantial investments in telephone

20  equipment such as PBXs. It is also desirable that at least some methods reduce or eliminate the need for customer service representatives to commute to a centralized location or office to work.

25

## SUMMARY OF THE INVENTION

The present invention is directed to methods and apparatus which can be used to provide manned, e.g., live telephone based, customer support to customers, e.g., people using the Internet to purchase goods and/or services.

In accordance with the present invention, a person viewing a Web Site, e.g., a customer, is presented with a button which provides the opportunity to talk to a customer service representative. Upon activating the button, e.g., by clicking on it, the customer's computer or other Internet browser device sends a signal, e.g., a call request message, over the Internet indicating that the customer wants to talk with a service representative. The call request message normally includes the customer's telephone number. Optionally, it may also include information on the Web page being viewed by the customer at, and/or shortly prior to, the time the button was activated. The customer's telephone number may be retrieved from a storage location on the customer's browser device or supplied by the customer following activation of the button.

In one embodiment, the call request message is transmitted to an Internet server of the business which displayed the Web page with the activated call request button.

The business's Internet server receives the call request message and identifies an available customer service representative who can service the call request. Once a customer service representative is assigned to handle a call request, relevant information is transmitted to a computer used by the identified customer representative via, e.g., the Internet or a local area network (LAN). In addition, a customer service call is initiated between the customer and the identified customer service representative using, e.g., the customer telephone number information included in the call request message or a customer telephone number retrieved from a database.

The customer service call may be initiated by sending, in the form of a customer service call initiation message, a telephone switch, conference bridge, intelligent peripheral device, AIN circuitry such as an ISCP (integrated service control point) or other telephone equipment with call initiation capability, the telephone number of the customer to be called and the telephone number of the service representative. The customer service call information may be transmitted via the Internet or a LAN to the device which is responsible for establishing the customer service call. In addition to the telephone number information, the customer service call initiating message may include, e.g., a business identifier and/or password. The business identifier is

used for billing purposes while the password is used to ensure that the identified business is the party requesting the customer service call. All or portions of the customer service call initiating message may be

5   encrypted.

In order to use customer representatives' time in an efficient manner, the calling equipment may be programmed to call the customer first. Once the customer

10  answers the phone, an automated message is played to the customer requesting that the customer hold while being connected to a customer service representative. An exemplary message played to the customer may be, e.g., "Please hold while we connect you to a ABC company

15  customer representative.", where ABC is the name of the company identified in the customer service call initiating message or call request message. While the customer is being played the message, the calling equipment calls the customer service representative and

20  bridges the calls between the sales representative and the customer. In such an embodiment, the customer service representative's time is not wasted waiting for the customer to answer the phone or on calls which go unanswered by the customer.

25

The above discussed technique of establishing a customer service call between a customer viewing a Web site and a customer service representative has several

advantages. From a customer's perspective, it allows a customer to talk with a customer representative without having to place a call often while still viewing the Web page which was responsible for prompting the desire to

5   talk to a customer representative in the first place. From an E-business perspective, it allows for such calls to be placed without having to make an investment in telephone calling equipment such as a PBX, call bridging equipment, conference calling equipment or other

10  expensive telephone equipment. This is because, in accordance with the present invention, such equipment may be owned and located at a telephone company site as opposed to the E-business owner's site. The above described method also allows for efficient use of

15  customer representatives' time and allows customer representatives to work from home if desired. Since customer representatives can work from home, they may be more willing to work part time, split shifts, or work at unusual hours such as nights, weekends or late evenings

20  since they can do so from the comfort and convenience of their own homes.

While the methods of the present invention have been discussed above in the case of an embodiment where

25  the call request message is first transmitted to a company's Internet server, the call request message may be transmitted directly from the customer's computer to telephone equipment having call initiation and, optionally, call bridging capabilities, e.g., via the

Internet. In such an embodiment, the telephone number of the agent to be contacted, or, e.g., an 800 number corresponding to a customer service center, may be incorporated into the customer's call request message in addition to the customer's telephone number. This telephone number may be obtained from information included in the Web page which included the button which was responsible for initiating the generation of the call request message. Alternatively, the calling equipment may be responsible for identifying the telephone number of an available customer service representative using a business identifier included in the call request message and any one of a number of known automated call distribution techniques.

After identifying the telephone number of the service agent to be used in a customer service call, in response to the call request message, the calling equipment establishes a call between the customer and customer service representative, e.g., in the manner discussed above.

In the above manner, the methods and apparatus of the present invention can be used to facilitate E-business transactions, reduce or eliminate the need for E-businesses to make substantial investments in telephone equipment and, at the same time, provide a customer service representative greater opportunities to work from home.

The methods of the present invention can be used to provide customer support using voice over IP as opposed to voice over the telephone. In such an embodiment, IP calling equipment is substituted for the described telephone calling equipment. In addition, Internet, e.g., IP, addresses are substituted for telephone numbers.

Various additional features and advantages of the present invention will be apparent from the detailed description which follows.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 illustrates a communication system implemented in accordance with an exemplary embodiment of the present invention.

Fig. 2 illustrates a computer system suitable for use by an E-business customer in the system of Fig. 1.

Fig. 3 illustrates a computer system that may be used as the business Web server of Fig. 1.

Fig. 4 illustrates an exemplary Web page displayed on a display device in accordance with the present invention.

Fig. 5 is a flow chart illustrating various steps performed by a consumer's computer system in accordance with the present invention.

5

Fig. 6 is a flow chart illustrating various steps performed by a consumer's Web server in accordance with the present invention.

10          Fig. 7 illustrates a first exemplary call request message.

Fig. 8 illustrates an exemplary customer service call initiation message.

15

Fig. 9 illustrates a second exemplary call request message.

DETAILED DESCRIPTION

20

As discussed above, the present invention is directed to methods and apparatus which can be used to provide live, e.g., telephone based, customer support to customers, e.g., people using the Internet to purchase
25   goods and services.

Fig. 1 illustrates a communications system implemented in accordance with the present invention. As illustrated, the system 100 includes first through fourth

customer premises 22, 24, 26, 28,a telephone network 71,
business site 50, a separate computerized sales site 59
and the Internet 30.  The Internet connects the various
components together so that messages, data and
5    information can be transmitted between the system
components using, e.g., TCP/IP.

The first customer premise includes a computer
system 36 and a telephone 38.  The computer system 36 is
10   coupled to the Internet 30.  While not discussed in
detail herein, the telephone network 71 may be used to
connect customer premises to the Internet 30.  The
telephone 38 is coupled to a telephone switch, e.g., a
signal switching point 62, of the telephone network 71.
15

The computer system 36 may be used by an
individual, e.g., a customer, located at the first
customer premises 22, to browse the World Wide Web, e.g.,
for purposes of shopping on-line.  The telephone 38 may
20   be used by the customer to make and receive calls.
Assuming that the customer has DSL, ISDN or multiple
telephone lines or another connection to the Internet
which does not prohibit voice calls over the phone 38
while the computer system 36 is "on-line", e.g., in
25   active contact with the Internet, the customer may be
contacted by a customer service representative via
telephone 38 while still on-line using the computer 36.

Each of the second, third and fourth subscriber premises 24, 26, 28 may include a computer 36 and telephone 38. In such an embodiment, each subscriber premises would be connected to the Internet 30 as well as

5   the telephone network 71.

While on-line, the customer may access, view and respond to Web pages presented to the customer from business site 50. Business site 50 includes a Web server

10  52 and a plurality of sales positions, e.g., sales positions 1 (54) through N (55). Each sales position 54, 55 includes a telephone 56, 56' and a computer 58, 58'. The telephone 56, 56' is coupled to the telephone network 71 while the computer 58, 58' is coupled to the Web

15  business server 52. A customer representative, e.g., a live human sales representative, can talk with customers via the telephone 56, 56' while accessing Web page information, customer information, and/or entering sales order information using the computer 58 or 58'.

20

The Web Business server 52 performs a variety of functions including Web Page hosting, maintaining of sales information and records, assignment of customer representatives to service particular customers and the

25  generation of customer service call initiation messages. In one embodiment, the server 52 maintains information on customer service representative availability and assigns customer call requests to particular customer service

representatives and sales positions, as a function of
sales representative's availability and/or expertise.

Note that in the Fig. 1 embodiment, the
5    business site 50 does not include a PBX or other
telephone equipment.  Since the telephone network and
telephone conferencing equipment included therein is used
to support customer service calls, the need for a PBX is
avoided.  However, in some embodiments, it is
10   contemplated that a PBX would be included at the business
site, with the telephone network providing call
initiation and bridging capability, e.g., for remote
customer service representatives such as the one located
at remote sales site 59.
15

The remote sales site 59, like sales positions
1 through N, includes a telephone 56'' and computer 58''.
Sales site 59 may be, e.g., the home of a customer
service representative.  The computer is coupled to the
20   Web business server via the Internet 30 while the
telephone 56'' is coupled to the telephone network 71.
Sales information, customer service representative
availability information, customer information as well as
other business information can be exchanged between the
25   Web business server 52 and the computer 58'' via the
Internet.  Communications between the computer 58'' and
business Web server 52 may be encrypted for security
purposes.  Customer service calls including calls
initiated in response to a call request message sent to

the Web server 52 can be handled from phone 56''.
Because computer and telephone customer service support
can be implemented from any site equipped with a computer
and a telephone, the calling techniques of the present
5    invention allow human customer service representatives to
work from home if desired.

The telephone network 71 includes operational
switching network (OSN) 74, a plurality of signal
10   switching points 62, 64, 66, a mobile telephone switching
office 65, an antenna 67, a plurality of signal transfer
points (STPs), and an Internet access server 72.  The OSN
couples together the Internet access server 72, and SSPs
62, 64, 66.  The OSN 74 is a TCP/IP based network which
15   allows telephone switches, the Internet Access server,
telephone operator stations, and other telephone network
devices to exchange data as well as control and switching
information.  Accordingly, OSN 74 can be used to transmit
control signals used for establishing customer service
20   calls to various components of the telephone network 71.

The SSPs 62, 64, 66 may be implemented using
telephone switches with call bridging/conferencing
capability, e.g., Class V telephone switches.  The signal
25   transfer points 68, 70 link the SSPs and MTSO 68 together
via signaling and data lines over which information can
be communicated between the SSPs in accordance with
signaling system seven (SS7).

In addition to being coupled to the OSN 74 and STPs, the SSP 62, 64, 66 may also be coupled to the Internet and/or one or more peripheral devices 76. Such devices are sometimes referred to as intelligent

5 peripherals (IPs) because they perform logic functions in addition to providing conference bridges, speech recognition circuits and other telephone switch peripheral devices. The illustrated IP includes an input/output interface 73 for coupling the IP 76 to the

10 Internet and to the SSP 62. It also includes calling logic 80 used for establishing customer service calls in response to customer service call request messages and/or customer service call initiation messages received via the Internet 30.

15

The telephone networks Internet access server 72 interfaces between the Internet 30 and the OSN 74. The Internet Access server 72 provides security, e.g., it serves as a firewall, to insure that unauthorized users

20 are not granted access to the OSN 74 and thereby permitted to control telephone switch operation. Customer service call request messages may be sent via the Internet to the Internet Access server 72. If the businesses sending the customer service call request

25 message is recognized as a customer service call service subscriber, and the sender's PIN or password is confirmed, the Internet Access Server will proceed to establish the requested customer service call by passing the necessary customer service call setup instructions

and data to one of the telephone switches, e.g., SSPs 62, 64, 66, via the OSN 74.

Thus, a customer service call may be initiated
5   by sending a message over the Internet to the IP 76 or to the Internet access server.  Alternatively, a call conference may be initiated by sending a call request message or a customer service call initiation message directly to a telephone network switch, e.g., SSP 62,
10  which has an Internet interface.  In the case where telephone switches are allowed to receive messages and data directly from the Internet, firewall protection is incorporated into the switch's Internet interface to reduce the possibility of unauthorized use and/or control
15  of the telephone switch.

Fig. 2 illustrates an exemplary computer system 36 which may be used by a customer browsing the Internet. The computer system 36 comprises a CPU 212, modem 214,
20  NIC 216, memory 218 and an input/output (I/O) interface 206 which are coupled together by a bus 201.  The I/O interface 206 couples a plurality of input/output devices, including a display 202, speakers 204, keyboard 208 and MIC 210, to the bus 201.
25

The memory 218 includes applications as well as data that may be executed and/or processed by the CPU 212.  In particular, memory 218 includes a web browser 220, an operating system 222, a voice over IP routine

232, and user information 224.  The user information 224

includes a phone number 226 and an IP address 228, e.g.,

the phone number and IP address of the customer using the

computer system 36.  The computer system 36 may be

5    coupled to the Internet via the modem 214.  Alternatively

it may be connected to the Internet through a computer

network to which the computer system is coupled via

network interface card (NIC) 216.

10           The user of the computer system 36 may supply

his or her phone number to the computer system 36 for

future use when being contacted, e.g., by a customer

service representative, at the time the operating system

222 is installed, when the web browser 220 is installed,

15   or at the time the customer activates a button on a web

page requesting that a customer service representative

contact them.

             Fig. 3 illustrates a business Web server that

20   may be used as the Web server 52 illustrated in Fig. 1.

As illustrated, the Web server includes many of the same

components as the computer system illustrated in Fig. 2.

The business Web server includes a bus 201 which couples

a CPU 312, modem 314, NIC 316, memory 318 and an

25   input/output (I/O) interface 306 together.  The I/O

interface 306 couples a plurality of input/output

devices, including a display 302, speakers 304, and

keyboard 308 to the bus 201.

The memory 318 includes applications as well as data that may be executed and/or processed by the CPU 312. In particular, memory 318 includes a web browser 320, an operating system 322, a voice over IP routine

5   332, order information 321, customer information 324, customer service representative information 331, web page server routine 330, and an automated call distribution routine 338.

10   A voice over IP routine can be used to communicate and receive voice signals, e.g., to support audio communications over the Internet with a customer. Order information 321 includes information on received orders, e.g., orders for products offered for sale on the

15   business's web page. Customer information 324 includes customer name and address information and, in some embodiments, phone number 326 and IP address information 328. The phone number 326 and/or IP address information can be used to contact the customer, e.g., in response to

20   a request to be called by a customer service representative. The stored phone number and IP address information may correspond to information previously obtained from the customer.

25   Customer service representative information 331 includes customer representative availability information 337, customer service representative phone number information 334, and IP addresses information 336. The customer representative availability information 337

indicates when a customer service representative is available to handle customer service calls, e.g., is logged onto the representative computer system. This information can be supplemented with information received

5    from the customer service representative's computer regarding the status of the representative at any given moment in time, e.g., information indicating whether or not the agent is busy servicing a customer. The customer service representative phone number information 334 and

10   IP address information 336 identifies the phone number and IP address of the computer being used by each customer service representative. The customer representative phone number information can be used by the automated call distribution (ACD) routine 338 to

15   formulate customer service call initiation messages in response to call request messages received from customers.

The automated call distribution routine 338 is

20   responsible for processing received call request messages. When a call request message is received, the ACD routine 338 identifies an available customer service representative, or one that will be available in the near future, using, e.g., the customer service representative

25   availability information 337. The ACD routine then formulates a customer service call initiation message using the telephone number of the customer to be called and the telephone number of the customer service representative assigned to handle the call. In addition

to assigning a customer service representative to handle
the call, the ACD routine also forwards to the assigned
customer service representative customer information and
information about the Web page that was being viewed by
5    the customer at the time the call request was initiated.
This information may be transmitted to the assigned
customer representative computer over the Internet or a
LAN.

10    Fig. 4 illustrates an exemplary web page 400 of
the present invention being displayed on the display 202
of computer system 36.  The Web page 400 is displayed by
the customer's Web browser 220 after being received over
the Internet from the Web server 52.  As illustrated, the
15    page 400 includes a product description/advertisement
area 402, an add to shopping cart button 404, and a talk
to customer service representative button 406.

In response to the activation of the talk to
20    customer service representative button 406, e.g., by
double clicking on it, the Web browser generates a call
request message.

The display of Web page 400 occurs as part of
25    the normal operation of a customer's computer, e.g.,
while the customer is browsing the Internet.  Fig. 5 is a
flow chart 500 illustrating the steps performed by a
customer's computer in accordance with the present
invention.

Computer operation starts in step 502 with the computer being turned on. Operation proceeds to step 504 wherein the computer 36 executes the Web browser application 220. In step 506 the computer 36 receives web page selection information, e.g., a web site URL, from the customer. This information may be entered, e.g., using keyboard 208.

Next, in step 508, the web page corresponding to the site selected by the customer is retrieved and displayed. In this manner, the Web page 400, including the "talk to service representative" button may be displayed to a customer.

In step 510, activation of the "talk to customer service representative" button 406, e.g., by the customer clicking on the button, is detected. Next in step 512, the computer system requests that the customer provide the telephone number at which he/she wishes to be called. In step 512, the request for the telephone number is skipped if a telephone number has already been stored on the customer's computer. From step 512 operation proceeds to step 513. In step 513 a call request message is generated.

The call request message is generated from information obtained from the Web page as well as information provided by the customer. For example, the

call request message may include a Web server address or
the address of telephone conference equipment which was
obtained from the Web page 400 and, optionally, a
business identifier, obtained from the Web page 400. In
5   addition it may include a customer telephone number
and/or customer identifier. In the case where voice over
IP is supported IP addresses may be provided in the place
of telephone numbers. Call request messages may also
include Web page information, information on the time the
10  customer wishes to be contacted and additional
information such as a brief note from the customer
indicating the purpose or planned subject of the call.

In accordance with the present invention, the
15  Web page will normally include information identifying
the contact address, e.g., the address of a Web server or
conference equipment, to be used when sending a call
request message. The contents of the call request
message may vary depending on whether the message is
20  being sent to a Web server or telephone conference
equipment.

Fig. 7 illustrates an exemplary call request
message 700 which is generated when the Web page 400
25  includes a Web server address as the contact address for
call request messages. The exemplary call request
message 700 includes a Web server address 702, customer
telephone number 704, web page information 706, desired
contact time information 708 and additional information,

e.g., a brief message from the customer. Customer identification information may also be included in the message 700. In cases where customer identification information is provided and the Web server has a contact

5    telephone number stored for the customer, the customer telephone number may be omitted from the message.

Fig. 9 illustrates an exemplary call request message 900 which is generated when the Web page

10   400 includes a telephone conference equipment address as the contact address for call request messages. As illustrated, the exemplary call request message 900 includes the telephone conference equipment address 902, a business identifier 904 which is normally obtained from

15   the Web page 400, web page information 906, a customer telephone number 908, customer service representative information 910, and desired contact time 912.

The customer service representative information

20   910 is an optional service representative identifier which may be obtained from the Web page 400 being viewed at the time the customer activates the call request button. A business can assign different customer service representatives by incorporating different customer

25   service representative information into its different web pages. For example a travel agency may use the customer service representative information to assign a cruise expert to handle calls originating from Web pages

advertising cruises and an airline expert to Web pages
advertising flights.

5  Referring once again to Fig. 5, once the call
request message has been generated in step 513, operation
proceeds to step 514.  In step 514, the generated call
request message is transmitted via the Internet to the
Web server or conference equipment, e.g., telephone or
voice over IP conference equipment, to which it is
10 addressed.

From step 514 operation proceeds to step 516
wherein additional customer input is processed by the
computer, e.g., additional web pages are accessed in
15 response to input from the user.  Operation stops in step
518, e.g., when the customer turns off the computer.

The method of the present invention as applied
to a business Web server 52 will now be described with
20 reference to Fig. 6.  As illustrated in Fig. 6, operation
of the Web server 52 begins in step 602 with the system
being activated.  In step 604 the Web server 52 provides
an Internet user, e.g., customer, accessing a web site
hosted by the Web server, a web page.  In step 606, the
25 Web server 52 detects a call request message from a
customer.  The received call request message is processed
in step 608 with the Web server 52 identifying a customer
service representative to service the call request.  This
may be done using the ACD routine 338.  Once a customer

service representative has been identified, e.g.,
assigned, to service the call request, a customer service
call initiation message is generated in step 609.  The
customer service call initiation message includes

5    information used by telephone conference equipment, to
which the message is directed, to initiate and bill the
customer service call.


Fig. 8 illustrates an exemplary customer

10   service call initiation message 800.  As illustrated, the
message 800 includes a telephone conference equipment
address 802, a business identifier 804, a password 806,
customer telephone number 810, customer service
representative telephone number 812 and desired contact

15   time information 814.  In the case of voice over IP, the
customer telephone number 810 and customer service
representative telephone number 812 are replaced with
Interent, e.g., IP addresses, for the customer and
customer service representative, respectively.

20

The business identifier 804 identifies the
business requesting that the call be initiated.  Normally
the identified business will be billed for the cost of
the customer service call.  Password 806 is used to

25   confirm that it is actually the identified business
requesting the call and not a computer hacker.  The
customer telephone number 810 and customer service
representative telephone number 812 are the telephone
numbers to be used when establishing the customer service

call. Desired contact time 814 indicates the desired
time of the customer service call. If this field is left
blank or omitted, customer service calls are initiated by
the calling equipment as soon as possible.

5

Referring once again to Fig. 6, once the
customer service call message is generated, it is
transmitted in step 610, e.g., over the Internet, to
calling equipment which is responsible for initiating the
10 customer service call between the customer and customer
service representative.

In step 612, the Web server 52 supplies
customer information, including information on the Web
15 page or pages which were being viewed by the customer, to
the customer service representative who was selected to
handle the call. The information may be transmitted to
the customer service representative's computer via the
Internet or a local area network. Then in step 614, the
20 Web server receives information from the customer service
representative relating to the customer service call.
The information may be, e.g., purchase order information,
a complaint or some other information. The information
is transmitted from the customer service representative
25 computer to the Web server 52 via the Internet or the
local area network.

In step 616, the information received from the
customer service representative is processed by the

server 52 prior to Web server operation being stopped in step 618.

As discussed above, rather than transmit customer service call request messages to a Web server, they can, and in some embodiments are, transmitted directly to calling equipment. Call request messages of the type illustrated in Fig. 9 include sufficient information for calling equipment to initiate and bill for a customer service call in accordance with the present invention.

By having the business Web server receive call request messages instead of the calling equipment, the business using the calling service can have greater control of the assignment of calls to particular service representatives as well as control over which calling equipment, when several calling devices are available, will be used to handle individual calls.

While the term customer has been used herein to refer to an individual browsing the Internet and seeking to contact a business, it is to be understood that this term is to be interpreted broadly and is not limited to individuals who actually place orders with the business which is contacted. In addition, the term calling equipment is to be interpreted broadly as including IPs, telephone switches, conference bridges, and other devices capable of establishing customer service calls or

bridging calls so that two parties may conduct a
telephone call over telephone lines or a call using voice
over IP.

5          Numerous variations on the above described
methods and apparatus are possible without departing from
the scope of the invention.

WHAT IS CLAIMED IS:

1  1.    A method of providing customer service to a user of
2  the Internet, the method comprising the steps of:
3            receiving a message over the Internet
4  representing a request for a call from a customer service
5  representative; and
6            operating, in response to said received
7  message, calling equipment to establish a call between
8  said user and a customer service representative.

1  2.    The method of claim 1, further comprising the step
2  of:
3            assigning a customer service representative to
4  respond to said received message; and
5            transmitting a first telephone number
6  associated with said user and a second telephone number
7  associated with the assigned customer service
8  representative to said calling equipment.

1  3.    The method of claim 2, wherein the message from said
2  user includes a telephone number which can be used to
3  call the user.

1  4.    The method of claim 3, wherein the message from said
2  user further includes desired contact time information.

1  5.    The method of claim 4, wherein the message from said
2  user further includes web page information.

1      6.    The method of claim 3, wherein the message from said

2      user further includes a business identifier.


1      7.    The method of claim 6, wherein the message from said

2      user further includes customer service representative

3      information.


1      8.    The method of claim 1, wherein said conference

2      equipment includes an intelligent peripheral device, and

3                wherein said step of operating calling

4      equipment includes:

5                      operating the intelligent peripheral

6         device to initiate a first call to said user

7         using the first telephone number;

8                      operating the intelligent peripheral

9         device to initiate a second call to said

10        customer service representative using the

11        second telephone number; and

12                   operating the intelligent peripheral

13        device to bridge the first and second calls.


1      9.    The method of claim 1,

2                wherein said calling equipment is a telephone

3      switch, and

4                wherein said step of operating calling

5      equipment includes:

6                operating the telephone switch to initiate a

7      first call to said user using the first telephone number;

8  operating the telephone switch to initiate a
9  second call to said customer service representative using
10 the second telephone number; and
11 operating the telephone switch to bridge the
12 first and second calls.

1  10.  The method of claim 1, further comprising the steps
2  of:
3  assigning, in response to the received message,
4  one of a plurality of customer service representatives to
5  service said user; and
6  sending information associated with said user
7  to a computer system associated with the assigned
8  customer service representative.

1  11.  The method of claim 10, wherein sending information
2  associated with said user includes:
3  transmitting said information over the Internet
4  to the computer system associated with the assigned
5  customer service representative.

1  12.  The method of claim 10, wherein sending information
2  associated with said user includes:
3  transmitting said information over a local area
4  network to the computer system associated with the
5  assigned customer service representative.

1  13.  The method of claim 10, further comprising the step
2  of:

3          receiving sales information from the customer

4  service representative.


1  14.  The method of claim 13, wherein the computer

2  associated with the customer service representative is

3  located at the customer service representative's

4  residence.


1  15.  The method of claim 13, further comprising the step

2  of:

3          supplying, over the Internet, to a computer

4  system associated with said user a web page including a

5  button which can be activated to initiate the

6  transmission of a call request message over the Internet.


1  16.  A method of using a computer coupled to the

2  Internet, the method comprising:

3          operating the computer to retrieve from the

4  Internet a web page including a button which can be

5  activated by a user of the computer to request a call

6  from a customer service representative;

7          operating the computer to display said web page

8  to said user;

9          operating the computer to detect activation of

10  said button by the user; and

11          in response to activation of said button,

12             i. generating a call request message; and

13             ii.  transmitting the call request message

14          over the Internet.

1    17.   The method of claim 16,

2              wherein the step of transmitting the call

3    request message is performed as a function of an address

4    information obtained from said web page; and

5              wherein generating a call request message

6    includes incorporating into the call request message, a

7    telephone number associated with said user.


1    18.   The method of claim 17,  wherein generating a call

2    request message further includes:

3              incorporating into the call request message,

4    web page information obtained from the web page and

5    desired contact time information.


1    19.   The method of claim 18, wherein generating a call

2    request message further includes:

3              incorporating into the call request message

4    customer service representative information.


1    20.   The method of claim 19, wherein the customer service

2    representative information includes a customer service

3    telephone number.


1    21.   A method of operating telephone equipment, the

2    method comprising the steps of:

3              receiving a message transmitted using TCP/IP

4    including call set-up information, the set-up information

5    including a telephone number of a customer and a

6    telephone number of a customer service representative,

7   operating the telephone equipment to establish

8 a first call with the customer;

9   operating the telephone equipment to establish

10 a second call with the customer service representative;

11 and

12   bridging the first and second calls.


1 22. The method of claim 21, wherein the first call is

2 established prior to the second call, the method further

3 comprising the step of:

4   playing the customer a message while

5 establishing the second call.


1 23. A method of providing customer service to a user of

2 the Internet, the method comprising the steps of:

3   receiving a message over the Internet

4 requesting a call from a customer service representative;

5 and

6   establishing over the Internet, in response to

7 said received message, a call between said user and a

8 customer service representative, said established call

9 including a voice over IP connection with at least one of

10 said user and said customer service representative.


1 24. The method of claim 23, further comprising the step

2 of:

3   assigning a customer service representative to

4 respond to said received message; and

5    transmitting a first IP address associated with
6    said user and a IP address associated with the assigned
7    customer service representative to said calling
8    equipment.


1    25.  A communication system, comprising:
2    a Web server for receiving a message over the
3    Internet requesting a call from a customer service
4    representative; and
5    calling equipment coupled to said Web server
6    for establishing a call between said user and a customer
7    service representative, in response to said received
8    message.


1    26.  The communication system of claim 25, wherein said
2    calling equipment includes:
3    an intelligent peripheral device; and
4    a telephone switch coupled to the intelligent
5    peripheral device.


1    27.  The communication system of claim 25, wherein said
2    calling equipment includes:
3    a telephone switch with an interface for
4    receiving messages from the Internet.


1    28.  The communication system of claim 25, wherein the
2    Web server is a computer for interfacing with the
3    Internet and wherein the calling equipment is a telephone
4    switch.

1    29.  The communication system of claim 25, wherein the

2    calling equipment is a voice over IP communications

3    system.

## ABSTRACT

Methods and apparatus for providing manned, e.g., live customer support to customers, e.g., people using the Internet to purchase goods and/or services are described. A person viewing a Web Site, e.g., a customer, is presented with a button which provides the opportunity to talk to a customer service representative. Upon activating the button, e.g., by clicking on it, the customer's computer or other Internet browser device sends a signal, e.g., a call request message, over the Internet indicating that the customer wants to talk with a service representative. The call request message includes the customer's telephone number and/or IP address. In response to the call request message, calling equipment is used to establish a customer service call between the customer and a customer service representative. The equipment can be owned by the telephone company thereby avoiding the need for E-business companies to make investments in telephone equipment. In addition, a customer service representative can be located either at the E-business site or remotely, e.g., at the customer service representative's private home or other site, with the representative being called by the conference equipment as required to service a customer. Voice over IP conference equipment may be used instead or in conjunction with telephone conference equipment where one or both of the customer and service representative have voice over IP capability.

Fig. 1

**36**

COMPUTER SYSTEM

Fig. 2

**202** DISPLAY

**204** SPEAKER(S)

**214** MODEM → TO INTERNET

**206** I/O INTERFACE

**216** NIC → TO COMPUTER NETWORK

**212** CPU

**208** KEYBOARD

**210** MIC

**218** MEMORY

**220** WEB BROWSER

**222** OS

**224** USER INFORMATION

**226** PHONE NUMBER

**228** IP ADDRESS

**230** APPLICATION ROUTINES

**232** VOICE OVER IP ROUTINE

52

BUSINESS WEB SERVER

Fig. 3

302

DISPLAY

304

SPEAKER(S)

314

MODEM — TO INTERNET

306

I/O INTERFACE

NIC — TO COMPUTER NETWORK

316

308

KEYBOARD

CPU

312

318

MEMORY

324

CUSTOMER INFORMATION

320

WEB BROWSER

ORDER INFORMATION

321

PHONE NUMBER

326

CUSTOMER SERVICE REPRESENTAIVE INFORMATION

331

322

IP ADDRESS

328

334

PHONE NUMBERS

OS

336

IP ADDRESSES

332

WEB PAGE SERVER ROUTINE

337

VOICE OVER IP ROUTINE

330

REPRESENTATIVE AVAILABILITY

338

AUTOMATED CALL DISTRIBUTION ROUTINE

╱ 202
                                      ╱ 400
                        WEB PAGE   ╱ 402

┌──────────────────────────────────────────┐
│                                          │
│                                          │
│                                          │
│     PRODUCT DESCRIPTION / ADVERTISEMENT  │
│                                          │
│                                          │
│                                          │
└──────────────────────────────────────────┘
        ╱ 404                         ╱ 406
┌──────────────────┐      ┌──────────────────────┐
│ ADD TO SHOPPING  │      │  TALK TO CUSTOMER    │
│      CART        │      │      SERVICE         │
│                  │      │   REPRESENTATIVE     │
└──────────────────┘      └──────────────────────┘

Fig. 4

START 502

Fig. 5

500

EXECUTE WEB BROSWER APPLICATION 504

RECEIVE WEB PAGE SELECTION INFORMATION FROM CUSTOMER 506

RETRIEVE AND DISPLAY CUSTOMER SELECTED WEB PAGE 508

DETECT CUSTOMER ACTIVATION OF DISPLAYED "TALK TO CUSTOMER SERVICE REPRESENTATIVE" BUTTON 510

REQUEST CUSTOMER TELEPHONE NUMBER IF A DEFAULT TELEPHONE NUMBER HAS NOT ALREADY BEEN STORED ON THE CUSTOMER'S COMPUTER 512

GENERATE CALL REQUEST MESSAGE 513

TRANSMIT CALL REQUEST MESSAGE 514

PROCESS ADDITIONAL USER INPUT 516

STOP 518

START _602_

**Fig. 6**

600

SUPPLY WEB PAGE TO INTERNET USER, E.G., CUSTOMER _604_

DETECT CALL REQUEST MESSAGE FROM CUSTOMER _606_

IDENTIFY CUSTOMER SERVICE REPRESENTATIVE TO SERVICE CALL REQUEST _608_

GENERATE CUSTOMER SERVICE CALL INITIATION MESSAGE _609_

TRANSMIT CUSTOMER SERVICE CALL INITIATION MESSAGE TO CALLING EQUIPMENT _610_

SUPPLY CUSTOMER INFORMATION, INCLUDING INFORMATION ON WEB PAGE BEING VIEWED BY THE CUSTOMER, IF AVAILABLE, TO CUSTOMER SERVICE REPRESENTATIVE _612_

RECEIVE INFORMATION, E.G., PURCHASE ORDER INFORMATION, FROM CUSTOMER SERVICE REPRESENTATIVE _614_

PROCESS INFORMATION RECEIVED FROM CUSTOMER SERVICE REPRESENTATIVE _616_

STOP _618_

| | | | | |
|---|---|---|---|---|
| 702 | 704 | 706 | 708 | 710 |
| WEB SERVER ADDRESS INFORMATION | CUSTOMER TELEPHONE NUMBER | WEB PAGE INFORMATION | DESIRED CONTACT TIME | ADDITIONAL INFORMATION |

700

**Fig. 7**

| | | | | |
|---|---|---|---|---|
| 802 | 804 | 806 | 810 | 812 | 814 |
| CALLING EQUIPMENT ADDRESS INFORMATION | BUSINESS IDENTIFIER | PASSWORD | CUSTOMER TELEPHONE NUMBER | CUSTOMER SERVICE REPRESENTATIVE TELEPHONE NUMBER | DESIRED CONTACT TIME |

800

**Fig. 8**

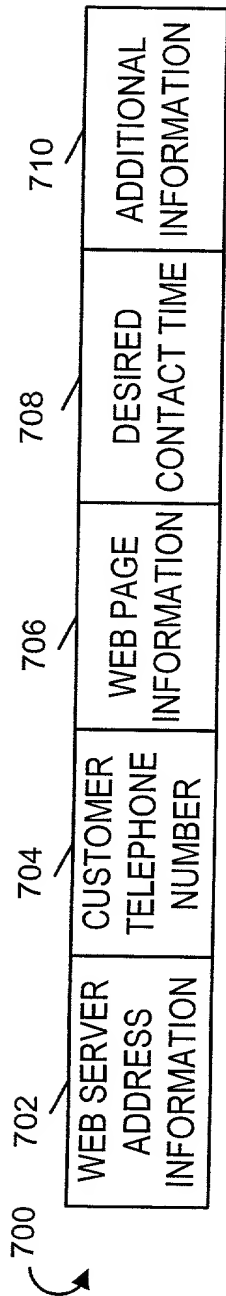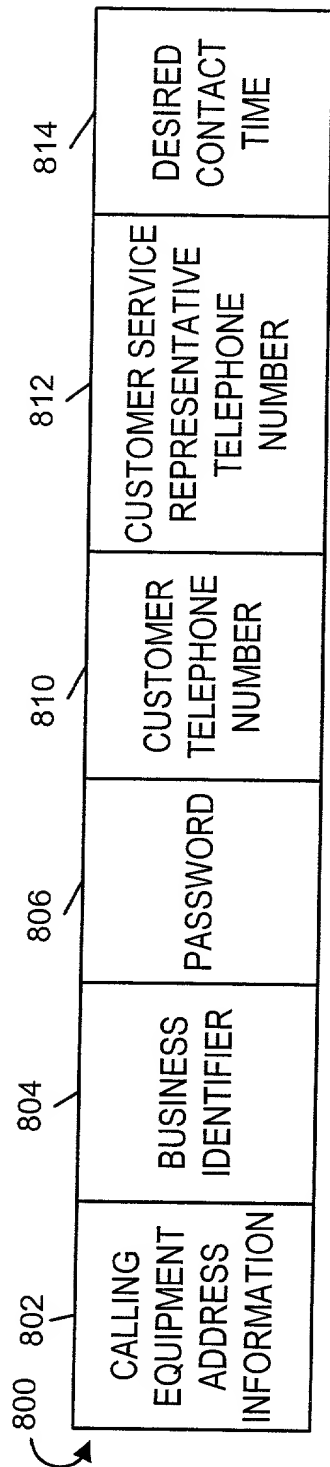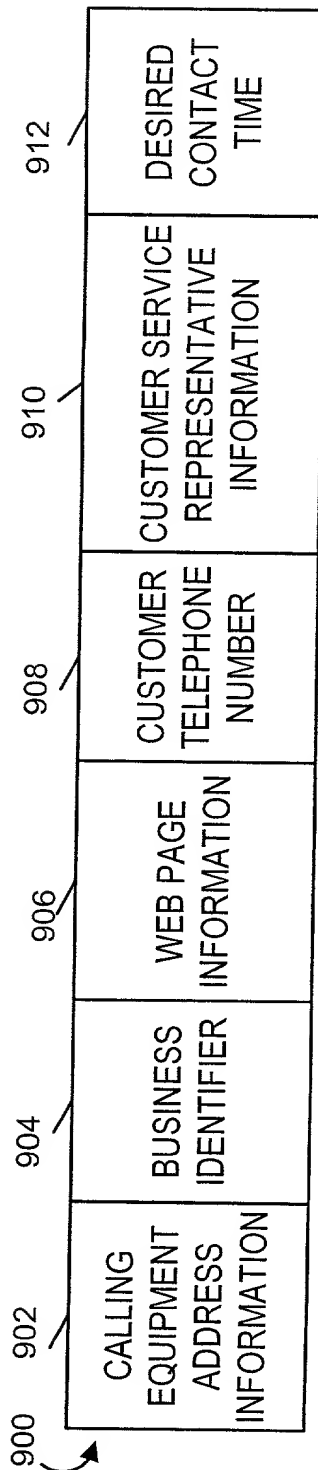| | | | | |
|---|---|---|---|---|
| 902 | 904 | 906 | 908 | 910 | 912 |
| CALLING EQUIPMENT ADDRESS INFORMATION | BUSINESS IDENTIFIER | WEB PAGE INFORMATION | CUSTOMER TELEPHONE NUMBER | CUSTOMER SERVICE REPRESENTATIVE INFORMATION | DESIRED CONTACT TIME |

900

**Fig. 9**

**DECLARATION AND**
**POWER OF ATTORNEY**
(Utility Patent Application)

As a below named inventor, I hereby declare:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below), of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**METHODS AND APPARATUS FOR PROVIDING**
**TELEPHONE SUPPORT FOR INTERNET SALES**

the specification of which:

☒ is attached hereto
☐ was filed on _____ as Application Serial
    No. _____ with amendment(s) filed
_____

☐ was filed as PCT international application:
    serial number _____ on _____
    and was amended under PCT Article 19 on _____

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations section 1.56.

I hereby claim foreign priority benefits under Section 119 of Title 35, United States Code for the above-identified US patent application based on the patent or inventor's certificate identified below and having a filing date before that of the US patent application for which priority is claimed:

Priority Claimed
under 35 U.S.C. §119

I hereby claim the benefit under Section 120 and/or
Section 119(e) of Title 35 of the United States Code of any
United States application(s) listed below and, insofar as the
subject matter of each of the claims of this application is not
disclosed in the prior United States application in the manner
provided by Section 112 of Title 35 of the United States Code, I
acknowledge the duty to disclose material information, as
defined in Section 1.56 of Title 37 of the Code of Federal
Regulations, which occurred between the filing date of the prior
application and the national or PCT international filing date of
this application:

Status
Application Serial No.   Filing Date   Patented   Pending Abandoned

Power of attorney:

As a named inventor, I hereby appoint:

    John C. Pokotylo (Reg. No. 36,242)
    Michael P. Straub (Reg. No. 36,941)

as my attorneys to prosecute this application and to transact
all business in the United States Patent and Trademark Office in
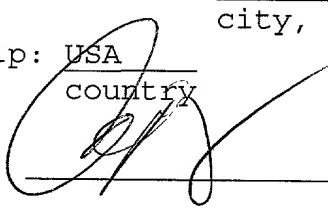connection therewith.

Direct all correspondence to Customer Number IDON601137 at the
following address:

        STRAUB & POKOTYLO
        1 Bethany Road
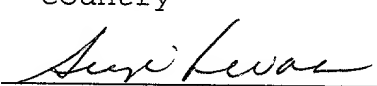        Suite 56, Building 4
        Hazlet, New Jersey 07730.

Direct all telephone calls to: (732) 335-1222.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

First inventor:

Full name: <u>Reding</u>                    <u>Craig</u>          <u>L.</u>
            last                        first          middle
Residence address: <u>289 Erie Avenue</u>
                    street
                   <u>Midland Park, NJ 07432</u>              <u>USA</u>
                    city, state, zip code              country
Post Office address: <u>same as above</u>
                      post office & box number

                    _____          _____
                     city, state, zip code              country

Citizenship: <u>USA</u>
              country

Signature: _____

Date: <u>6-16-00</u>

Second inventor:

Full name: <u>Levas</u>                     <u>Suzi</u>          _____
            last                        first          middle
Residence address: <u>175 Avalon Gardens Dr.</u>
                    street
                   <u>Nanuet, NY 10954</u>                   <u>USA</u>
                    city, state, zip code              country
Post Office address: <u>same as above</u>
                      post office & box number

                    _____          _____
                     city, state, zip code              country
Citizenship: <u>USA</u>
              country

Signature: _____

Date: <u>6/16/2000</u>